



### Jeffers High School

13084 Goodell Street  
Painesdale, MI 49955  
Principal: Tim Keteri

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Jeffers High School, located in Adams School District in Michigan, serves a predominantly white population from a low to middle socioeconomic background. A math teacher in this school learned about the importance of teaching spatial skills, especially to girls, as part of the math curriculum during her masters studies at Michigan Tech. She was invited to pilot a new spatial skills program developed under a grant from the National Science Foundation.

- ◆ Middle and High (7–12)
- ◆ 97% White
- ◆ 45% Free or Reduced-Price Lunch

The program, Introduction to 3-D Spatial Visualization, includes nine practice modules using classroom activities and computer exercises to work on isometric and orthographic drawings, flat patterns, and rotations. For the nine modules, students start with a computer tutorial that has many examples set up as games. Students read a blueprint that is built with blocks, and physically manipulate and move the blocks. Following this hands-on experience, according to the teacher, sometimes the students would get so good they would not need the blocks to visualize and would just draw the 3-D representations of objects from mental visualizations of these objects rotated in space. Spatial skills training was offered initially as a one-semester mandatory special class for eighth grade students. Pre- and post-tests showed significant improvement in girls' spatial skills, so the program was offered later as an elective course for high school students.